

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A system for managing quality of service (QoS) for traffic flows generated by a plurality of hosts separated by one or more networks, wherein at least one of the networks is enabled with a set of traffic classes, said system comprising:

a services manager₁; and

a middleware module at at least one host of the plurality of hosts, wherein said middleware module at the at least one host receives a QoS request for a traffic flow that the at least one host generates and conveys a QoS provisioning request to the services manager upon receiving the QoS request for the traffic flow₁;[, and]]

wherein said services manager receives the QoS provisioning request from said middleware module, obtains a DSCP (Differentiated Services Code Point) value for the traffic flow only if it is determined that the networks the traffic flow traverses can support the traffic flow, and if ₁ the DSCP value is obtained, conveys the obtained DSCP value for the traffic flow to said middleware module₁;[, and]]

wherein said middleware module uses the obtained DSCP value received from the services manager to mark ₁ a DSCP field of packets of the traffic flow;

wherein the services manager, upon receiving the QoS provisioning request, determines the networks the traffic flow traverses, and as part of obtaining the DSCP value further determines, ₁ if for each traffic class enabled network that the traffic flow traverses, if there is sufficient bandwidth in a traffic class to support the traffic flow;

wherein the QoS request contains an identification of the traffic flow and wherein the middleware module conveys ~~[[this]]~~ the identification to the services manager as part of the QoS provisioning request;

wherein the services manager, upon receiving the QoS provisioning request, determines a default traffic flow characterization for the traffic flow based on the ~~traffic flow~~ identification of the traffic flow, and uses the default traffic flow characterization to obtain ~~[[a]]~~ the DSCP value by determining if the networks the traffic flow traverses can support the flow based on the default traffic flow characterization; and

wherein if the services manager cannot obtain ~~[[a]]~~ the DSCP value based on the determined default traffic flow characterization, the services manager determines an alternate traffic flow characterization for the traffic flow based on the identification of the traffic flow ~~identification~~, and uses the determined alternate traffic flow characterization to obtain ~~[[a]]~~ the DSCP value by determining if the networks the traffic flow traverses can support the flow based on the alternate traffic flow characterization.

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Currently Amended) The system of claim 1, further comprising a policy enforcement module at at least one host of the plurality of hosts, wherein the at least one host containing the policy enforcement module generates a second traffic flow, and wherein:

said middleware module receives a second QoS request for the second traffic flow and conveys a second QoS provisioning request to the services manager upon receiving the second QoS request for the second traffic flow;~~[[,]]~~

said services manager obtains a second DSCP value for the second traffic flow if the networks the second traffic flow traverses can support the second traffic flow, and if [[a]] the second DSCP value is obtained, conveys the obtained second DSCP value for the second traffic flow to the policy enforcement module₂[[,]] and

wherein said policy enforcement module uses the obtained second DSCP value received from the services manager to mark the DSCP field of packets of the second traffic flow.

6. (Currently Amended) The system of 5₁ wherein the services manager further conveys, when [[a]] the second DSCP value is obtained for the second traffic flow, packet policing and packet shaping instructions to the policy enforcement module, and wherein the policy enforcement module uses the packet policing and packet shaping instructions received from the services manager to police and shape the packets of the second traffic flow.

7. (Currently Amended) The system of claim 1₁ further comprising a policy enforcement module at the at least one host, [[and]] wherein:

when [[a]] the DSCP value is obtained for the traffic flow, said services manager further conveys packet policing and packet shaping instructions to the policy enforcement module₂[[,]] and

wherein the policy enforcement module uses the packet policing and packet shaping instructions received from the services manager to police and shape the packets of the traffic flow.

8.-16 (Canceled)

17. (Currently Amended) A system at a host for managing quality of service (QoS) for a plurality of traffic flows traversing one or more networks₁ wherein at least one of the networks is enabled with a set of traffic classes, said system comprising:

a signaling client for generating QoS provisioning requests for one or more of the plurality of traffic flows;[[,]]

a middleware control module for receiving the QoS provisioning requests and for conveying the QoS provisioning requests to a services manager configured to ~~intended for~~ ~~determining which of the one or more networks any given traffic flow of the plurality of traffic flows traverses and for obtaining~~ obtain a DSCP (Differentiated Services Code Point) value that corresponds to a determined network that is traffic class enabled and is the first network a ~~the any~~ given traffic flow traverses;[[,]] and

a policy enforcement module for receiving ~~the determined~~ DSCP values for the one or more of the plurality of traffic flows that are generated by the host, wherein said policy enforcement module uses the DSCP values to mark ~~[[the]]~~ transmitted packets corresponding to the one or more of the plurality of traffic flows that are generated by the host;

wherein the services manager, upon receiving the QoS provisioning requests, determines the networks that the given traffic flow traverses, and as part of obtaining the DSCP values further determines, ~~[[if]]~~ for each traffic class enabled network that the given traffic flow traverses, if there is sufficient bandwidth in a traffic class to support the given traffic flow;

wherein the QoS provisioning requests contain~~[[s an]]~~ identifications of the traffic flows, and wherein the middleware module conveys ~~[[this]]~~ the identifications to the services manager as part of the QoS provisioning requests;[[,]]

wherein the services manager, upon receiving the QoS provisioning requests, determines ~~[[a]]~~ default traffic flow characterizations for the traffic flows based on the traffic flow identifications, and uses the default traffic flow characterizations to obtain ~~[[a]]~~ the DSCP values by determining if the networks the traffic flows traverse~~[[s]]~~ can support the traffic flows based on the default traffic flow characterizations; and

wherein if the services manager cannot obtain ~~[[a]]~~ the DSCP values based on the determined default traffic flow characterizations, the services manager determines ~~[[an]]~~ alternate traffic flow characterizations for the traffic flows based on the ~~traffic flow~~ identifications of the traffic flows, and uses the determined alternate traffic flow characterizations to obtain ~~[[a]]~~ the DSCP values by determining if the networks the traffic flows traverse~~[[s]]~~ can support the traffic flows based on the alternate traffic flow characterizations.

18. (Currently Amended) The system of claim 17, wherein the policy enforcement module further configures the host to perform packet policing and packet shaping of the transmitted packets corresponding to the one or more of the plurality of traffic flows that are generated by the host.

19. (Currently Amended) A method for managing quality of service (QoS) for traffic flows generated by a plurality of hosts interconnected by one or more networks, wherein at least one of the networks is enabled with a set of traffic classes, said method comprising:

receiving, at a services manager, a QoS provisioning request from a middleware module for any given traffic flow_i~~[[,]]~~

determining traffic attributes for the given traffic flow_i~~[[,]]~~

obtaining a DSCP (Differentiated Services Code Point) value for the given traffic flow based on whether the networks the traffic flow traverses can support the given traffic flow given the determined traffic attributes_i~~[[,]]~~ and

conveying ~~[[an]]~~ the obtained DSCP value to a first of two hosts when the given traffic flow is from a first host to a second host_i~~[[,]]~~

wherein the services manager, upon receiving the QoS provisioning request, determines the networks that the given traffic flow traverses, and as part of obtaining the DSCP value further

determines, ~~[[if]]~~ for each traffic class enabled network that the given traffic flow traverses, if there is sufficient bandwidth in a traffic class to support the given traffic flow;

wherein ~~[[the]]~~ a QoS request received by the middleware module contains an identification of the given traffic flow, and wherein the middleware module conveys ~~[[this]]~~ the identification to the services manager as part of the QoS provisioning request; ~~[[,]]~~

wherein the services manager, upon receiving the QoS provisioning request, determines a default traffic flow characterization for the given traffic flow based on the ~~traffic flow~~ identification, and uses the default traffic flow characterization to obtain ~~[[a]]~~ the DSCP value by determining if the networks that the given traffic flow traverses can support the given traffic flow based on the default traffic flow characterization;

wherein if the services manager cannot obtain ~~[[a]]~~ the DSCP value based on the determined default traffic flow characterization, the services manager determines an alternate traffic flow characterization for the given traffic flow based on the ~~traffic flow~~ identification, and uses the determined alternate traffic flow characterization to obtain ~~[[a]]~~ the DSCP value by determining if the networks that the given traffic flow traverses can support the given traffic flow based on the alternate traffic flow characterization.

20. (Currently Amended) The method of claim 19, further comprising ~~the step~~ of conveying the obtained DSCP value to the second host when the given traffic flow is from the second host to the first host.

21. (Currently Amended) The method of claim 19, ~~further comprising after said determining step the step of a determining which of the one or more networks the given traffic flow traverses, and~~ wherein the obtained DSCP value corresponds to a ~~determined~~ network that the given traffic flow traverses.

22. (Currently Amended) The method ~~system~~ of claim 19, wherein determining the traffic attributes ~~determining step~~ comprises ~~the steps of:~~

~~determining a default traffic characterization for the given traffic flow based on a flow identification in the provisioning request, and~~

converting the default traffic flow characterization into the traffic attributes.

23. (Currently Amended) The method of claim 22, comprising further steps executed in the event ~~[[a]]~~ the DSCP value is not obtained given the determined traffic attributes, said further steps comprising:

~~determining an alternate traffic flow characterization for the given traffic flow,~~

converting the default traffic flow characterization into alternate traffic attributes; ~~[[,]]~~ and

obtaining ~~[[a]]~~ the DSCP value for the given traffic flow based on whether the networks that the given traffic flow traverses can support the given traffic flow given the determined alternate traffic attributes.

24. (Currently Amended) A method executed by a first host for managing quality of service (QoS) for a plurality of traffic flows traversing one or more networks, wherein at least one of the networks is enabled with a set of traffic classes, said method comprising:

receiving, at a middleware module at a client device, a QoS provisioning request for any given traffic flow; ~~[[,]]~~

conveying the QoS provisioning request from the middleware module at the client device to a services manager configured to determine ~~intended for determining~~ which of the one or more networks the ~~[[any]]~~ given traffic flow traverses and for obtaining a DSCP (Differentiated Services Code Point) value corresponding to a determined network that is traffic class enabled and is the first network the given traffic flow traverses; ~~[[,]]~~

receiving the ~~determined~~ DSCP value when the given traffic flow is generated by the host; ~~[[,]]~~ and

marking ~~[[the]]~~ transmitted packets of the given traffic flow with the DSCP value;

wherein the services manager, upon receiving the QoS provisioning request, determines the networks that the given traffic flow traverses, and as part of obtaining the DSCP value further determines, ~~[[if]]~~ for each traffic class enabled network that the given traffic flow traverses, if there is sufficient bandwidth in a traffic class to support the given traffic flow;

wherein the QoS provisioning request received by the middleware module contains an identification of the given traffic flow, and wherein the middleware module conveys ~~[[this]]~~ the identification to the services manager as part of the QoS provisioning request;~~[[,]]~~

wherein the services manager, upon receiving the QoS provisioning request, determines a default traffic flow characterization for the given traffic flow based on the ~~traffic flow~~ identification, and uses the default traffic flow characterization to obtain ~~[[a]]~~ the DSCP value by determining if the networks that the given traffic flow traverses can support the given traffic flow based on the default traffic flow characterization;

wherein if the services manager cannot obtain ~~[[a]]~~ the DSCP value based on the determined default traffic flow characterization, the services manager determines an alternate traffic flow characterization for the given traffic flow based on the ~~traffic flow~~ identification, and uses the determined alternate traffic flow characterization to obtain ~~[[a]]~~ the DSCP value by determining if the networks that the given traffic flow traverses can support the given traffic flow based on the alternate traffic flow characterization.

25. (Currently Amended) The method of claim 24, further comprising ~~the step~~ of policing and shaping the transmitted packets of the given traffic flow with the DSCP value.